may be—it is strictly adopted; not an object violates the unity of thought.

In the most magnificent mansions of England this completeness has scarcely ever been attained; there is always some incongruous piece of furniture, some ill-patterned carpet, badly designed curtain cornice, or ugly gilt frame. We are so much accustomed to these 'upholsteries,' that we become blinded to their anomalies, by valuing them only at the great sums they have cost.

Even in the architectural composition of the interior of the principal rooms of such mansions, what 'monstrosities' of proportion, jumblings of character, and violations of forms, are displayed. Lanky pilasters and column patchwork cornices, and clumsily massive chimney-pieces of the purest Carrara marble, carved into repulsive forms, without an atom of skill, much less of design!

It is true, a brighter dawn gently opens upon us, and the interiors of our houses are gradually becoming covered with DESIGNED ornament. Hope is, however, chilled by the certainty, that much of good intention will be wasted by its being consigned to incapable hands. It is not here our province, nor does it suit our present purpose, to investigate all the bearings wherefore—or the under-current of influences which makes attempts sickly and feeble; all comment on the subject may be condensed into a sentence, 'EMPLOY AN ARTIST TO DESIGN, AND AN UPHOLSTERER TO EXECUTE.' You cannot go into a shop and order works of art as you would a portmanteau. Study, cultivation, learning, and talent, are wanting; they form no part of the stock in trade of the stone-mason, the carpenter, or the upholsterer. If, therefore, we would make our houses palaces of art, let us impress upon our minds the noble 'order' of the monarch of Bavaria: 'I will have ART—I will have no upholstery.'"

THE MASONS' PROVIDENT INSTITUTION.

THIS institution has been formed for the purpose of granting pensions to aged and necessitous members of the trade, their widows, or orphans, and the erection and maintenance of an asylum. In order to raise a fund to carry these objects into effect, subscribers of 10s. per annum, or donors of 5*l.* 5s., are entitled to one vote at all elections, and so on for every additional annual subscription of 10s., or donation of 5*l.* 5s.

The persons eligible to be elected to the benefits of this institution are—masons and sculptors who have been engaged at the business for ten years, and who are fifty-five years of age, their widows, or orphans, and who do not receive 10s. per week from any source, independent of this institution (sick or superannuation allowance from a benefit society excepted, which shall not be considered as a part of their income), and have been members for four successive years by annual subscription, and who shall be recommended by a donor or subscriber.—In the event of any member being totally disabled, either by accident or bodily infirmity, he is eligible to stand as a candidate for the benefit of this institutinn, although not of the age above specified.

Until funds are available for the erection of an asylum, the sum of 7s. per week is to be allowed to the successful candidates.

The committee have just now issued the rules of the society, and while they properly say, "It is a duty we owe not only to ourselves, but to our wives and families, to make that provision which individually we cannot, but collectively, in this institution, is at our command;" they appeal for assistance to their employers and to architects, as their natural protectors.* In the list of donors already published are the names of Mr. Wakley, M.P., Messrs. Freeman, Piper, Nowell, Jackson, Baker, W. Cubitt, T. Cubitt, Seth Smith, W. Harrison, and other well-known builders.

* "In appealing to those who have been justly termed our natural protectors, the 'Architectural Profession,' whose skilful and elaborate designs shed a lustre over and adorn our country, the promoters of this institution trust they may not be thought too presumptuous in seeking their support, considering the masons' trade closely allied to that eminent profession. When we contemplate those noble edifices which have been erected, and the public works in progress, made prolific by the aid of masonry, we venture to indulge the hope that the industrious mason has some claim upon their patronage and support, and that those charitable and kindly feelings which have ever actuated the profession, will be extended to watch over and protect your Institution."

SOME REMARKS ON BRIDGES.*

WESTMINSTER BRIDGE, by Labelye, in 1740-47, may be considered the first example of extensive structures of this kind. It consists of 13 semicircular arches (the centre of which is 75 feet span), 1164 feet long. It was originally intended for a wooden bridge, and was partly commenced on this principle. It was a great work at the time, but, as might have been expected, contained defects, particularly in the foundations, which at that time were but imperfectly understood, and have suffered much by the scour of the current. It will probably be rebuilt in a short time. Caissons, or water-tight chests, were first introduced there for the purpose of founding the piers below the level of low-water. Previous to this, the principal existing bridges consisted of a number of small Gothic, or of circular arches, with rough piers of masonry built either upon a foundation of loose rubble stones thrown promiscuously into the river until sufficiently high and solid, or upon timber platforms resting upon piles surrounded by large bulwarks of timber, filled with loose stones, called starlings, which materially contracted the water-way where they were placed, and, by causing increased rapidity in the current, created great obstacles to the navigation, as well as to the drainage of the adjacent country. Of this, the well-known examples of Old London Bridge, those at Newcastle-upon-Tyne, Rochester, and Belfast, may be mentioned. All these, with the exception of Rochester Bridge, are now removed, and are replaced with others, constructed upon the modern improved principles. Westminster Bridge was followed by that of Blackfriars, by Mylne (1760-71), consisting of 9 semi-elliptical arches, the largest of which is 100 feet span, and 41 feet 6 inches rise. The total length of the bridge is 995 feet, and 45 feet wide. Here the elliptical arch was introduced about the first time in this country. Smeaton's bridges of Coldstream, across the Tweed, in 1763, composed of 5 circular arches, the largest of which is 61 feet span; that over the Tay, at Perth, in 1766, of 9 circular arches, the largest of which is 75 feet span; at Hexham, over the Tyne, in 1767, of nine circular arches, the largest of which is 52 feet span, and others, for that period, were works of considerable magnitude. These were followed by numerous smaller works all over the kingdom, more remarkable for convenience and utility than for any peculiarity in their construction worthy of notice, until in 1809-1817, when Waterloo Bridge, across the Thames, consisting of 9 equal semi-elliptical arches, 120 feet span each, and 35 feet rise, was built of granite, in a style of solidity and magnificence hitherto unknown. There, the elliptical arch, with inverted arches between them, to counteract the lateral pressure, was carried to a greater extent than in former bridges; and isolated coffer-dams upon a great scale in a tidal river, with steam-engines for pumping out the water, were, it is believed for the first time, employed in this country. The level line of roadway, which adds so much to the beauty as well as the convenience of the structure, was there adopted. The bridge across the Severn at Gloucester, in 1828, by Telford, is worthy of remark, as being the first with one arch, of 150 feet span, like those of the bridge across the Seine at Neuilly, near Paris, by Perronet, where the interior of the arch is elliptical and the exterior circular.

New London Bridge (1825-31), consisting of five semi-elliptical arches, viz., two of 130 feet, two of 140 feet, and the centre 152 feet 6 in. span, and 37 feet 6 in. rise, is perhaps the largest elliptical arch ever attempted. The roadway is 52 feet wide. This bridge deserves remark on account of the difficult situation in which it was built, being immediately above the old bridge, in a depth from 25 feet to 30 feet at low water, on a soft alluvial bottom, covered with large loose stones, scoured away by the force of the current from the foundation of the old bridge, the whole of which had to be removed by dredging, before the coffer-dams for the piers and abutments could be commenced, otherwise it would have been extremely difficult, if not impracticable, to have made them water-tight; the difficulty was further increased by the old bridge being left standing, to accommodate the traffic, whilst the new bridge was building, and the restricted water-way of the old bridge occasioned such an increased velocity of the current, as materially to retard the operations of the new bridge, and at times the tide threatened to carry away all before it. The great magnitude and extreme flatness of the arches demanded unusual care in the selection of the materials, which were of the finest blue and white granite from Scotland and Devonshire. Great accuracy in the workmanship was also indispensable. The piers and abutments stand upon platforms of timber resting upon piles about 20 feet long. The masonry is from 8 feet to 10 feet below the bed of the river.

I will conclude this division of the subject with the celebrated bridge across the Dee at Chester. It consists of a single arch, the segment of a circle 200 feet span, with a versed sine or rise of 42 feet, which is the largest stone arch upon record. The arch stones at the crown are 4 feet 6 inches deep, and 7 feet at the springing, and the abutments on both sides of the river are founded on the new red sandstone. The centre for building the arch was remarkable for its simplicity, strength, and rigidity, by which means the greatest effect was produced by the smallest quantity of timber, and any change of form, so prejudical in centres, was prevented. This fine structure is due (it is believed) to the combined talents and energies of the late Mr. Harrison, the architect, of Chester, who made the original design; Mr. George Rennie, who equilibrated the arch, and gave the proper dimensions of the voussoirs and form and dimensions of the abutments, the modes of constructing them, and designed the centre, the original model of which is now in our gallery; and to Mr. Jesse Hartley and Mr. Trubshaw, who worked out the details, and carried the whole into effect.

A proper theory of the equilibrium of the arch, which shall satisfy all the conditions of the question, when applied to practice, may be said to be still wanting, though much valuable information may be derived from the scientific works of Hutton, Atwood, Moseley, Gwilt, and others, on the subject.

Oblique or skew bridges have but recently obtained extensive use. Chapman built some in Ireland many years ago, and wrote an account of his mode of constructing them. On railways they were introduced by Stephenson, and are now generally employed. Buck's excellent treatise on the principles and practice of their construction greatly facilitated their execution.

* From Sir John Rennie's address to the Engineers.

DESTRUCTION OF LUSK CHURCH, COUNTY DUBLIN.

A SCANDALOUS act of vandalism has just been committed on the ancient church of Lusk, and that by persons who should have been the first to protect this venerable relic of early days.

An effort has been made by some members of the "Council of the Celtic Athenæum," to stop the progress of destruction, but in vain. Several letters were addressed by the secretaries to the Ecclesiastical Commissioners, against taking down the old church, the site affording ample room for the new one. No answer being returned, *after a fortnight*, a personal interview was sought from the architect, who referred the matter to the secretary. At last the fact is announced, "the fine old abbey church that stood the test of centuries of wind and weather, is now one heap of ruins." Two curious monuments of the 16th century lie with the "*rubbish*." The Commissioners' secretary, 'tis true, gave the very polite hint, that "the monuments can be re-erected in the new church *at the expense of the parties interested*."

Lusk Church was an old fabric at the dissolution of religious houses, and seems to have been built adjoining a still more primitive structure,—the word "lusk" belog derived from the Irish word *luska*, which signifies a vault. To shew the *notions* our architects hold in reference to these ancient churches, I shall merely quote a sentence from the contractor's specification for the new church of Lusk: "The old church is to be taken down, the materials to become the property of the contractor, and the *rubbish* to be removed or levelled."—I am, Sir, &c. J. K.

Gorey, 5th Jan. 1847.

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